

million pounds of all types of tire rubber may have been consumed in this segment in 2015. It is recommended that future waste tire market reports analyze this segment in greater detail to better capture the range and quantity of feedstock types used.

As described above under Supply and Demand Balance, a new factor that could potentially impact crumb rubber supply and demand over the long-term is the possibility of using calcium carbonate derived from recycled carpets to replace a portion of crumb rubber used as a filler in certain TDPs. CARE, the carpet industry organization charged with compliance with California's carpet extended producer responsibility law, has issued more than \$2.1 million in grants to companies involved in tire recycling in an effort to expand this market. Increasing demand for crumb rubber and recycled carpet components are both CalRecycle priorities, and the potential for calcium carbonate to reduce sales of crumb rubber is currently uncertain.

### ***Civil Engineering***

The use of tire-derived aggregate in civil engineering applications was down by 8 percent in 2015 to 1.2 million PTEs. The decline was a function of the timing of non-landfill civil engineering project implementation, as a very large project is expected to begin in 2016. The outlook in 2016 is for increases in total use and in the number of projects using TDA, both for landfill civil engineering projects mainly involving gas collection systems and for non-landfill projects involving lightweight fill, vibration mitigation in light rail systems, storm water management, and other engineering projects. This trend is supported by CalRecycle's TDA grant program as well as ongoing outreach, research, and technical assistance activities.

#### **Landfill Civil Engineering Applications**

CalRecycle's TDA Grant Program helped to catalyze use of 1.0 million PTEs of TDA by seven landfills in 2015. While some are currently using low volumes, landfills as a category could potentially be established as a consistent market for TDA. California landfills generally report using TDA in connection with gas collection systems.

#### **Non-Landfill Civil Engineering Applications**

In 2015, about 129,000 PTEs of TDA were used in non-landfill civil engineering applications: in a vibration mitigation application related to the Bay Area Rapid Transit (BART) System outside of the grant program and a grant-funded storm water management project. While the storm water management project is relatively small, it could help fortify a trend toward a larger number of TDA projects using relatively small amounts that, combined, provide an ongoing, steady use of TDA. There is still a continued potential for very large projects on occasion. CalRecycle recently funded two non-landfill TDA projects that could use well over 4 million PTEs in 2016 and 2017: a landslide repair project in Santa Barbara and a very large lightweight fill/road fill project in Solano County that is projected to use more than 4.2 million PTEs. This will provide a major boost to use of TDA in civil engineering applications.